Bribery and Identity: Evidence from Sudan

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ABSTRACT

Using a unique dataset we are able to examine the determinants of identities in Sudan. We find that identification in Sudan is high and that there is little evidence that such identities compete with one another. In terms of socio-economic variables, poorer people tend to have greater identification. Tribal identification declines with the level of education, as does identity with religion and the Arab world. We also find that being asked for a bribe is associated with significantly lower levels of identity, particularly those linked with the tribe, the state (i.e. a region) and the nation. The evidence suggests that this is consistent with a large literature linking bribery to reduced trust and identification in national institutions and a nascent literature linking bribery to specific personal characteristics. Finally we analyse the probability of being asked for a bribe.

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1 Introduction

Identity is a potentially important aspect of behaviour. One of the key early papers is by Akerlof and Kranton (2000) which played a major part in introducing the concept to the literature, albeit in a different context to the one analysed in this paper. This is of course particularly pertinent given Sudan's recent history which saw the country split into two. When it involves national identity, it has the potential to bind a nation together and to enhance a feeling of civic duty, which facilitate state action and also the potential to reduce conflict, which has been well documented in the literature (Collier and Hoeffler, 2004). There is also considerable evidence that identity impacts on individual behaviour by creating norms by which group members abide (Constant and Zimmermann, 2008, Georgiadis and Manning, 2013). In this sense, if these norms coincide with those of the state, a common purpose is established and people tend to abide by the rules embodied in the legal system. But in addition, identity can affect behaviour to others, i.e. more pro-social to group members and less pro-social to non-group members (Hogg and Vaughan, 2005). Given this, Georgiadis and Manning (2013) argue that it is fairly obvious why countries should seek to establish a strong national identity which binds people together.

As Assal (2009) points out, the question of identity is an old problem in Sudan. A/Salam (2008) refers to 'the national identity crisis afflicting Sudan' and that elites' political debates have resurfaced following independence concerning, whether the Sudan is Arabic, and is by implication part of the Arab world, or whether it is African, and is therefore an ally of African countries. This split is also linked to a geographic north–south divide with the North of the country Arabic, and the Southern part African. It also reflects a religious divide, with the North largely Muslim and Christians more evident in the South. Madibbo (2012) argues that the Northern ruling elites are seeking to impose an Arab identity as the basis of the definition of the national identity framework. This is reflected in the use of Arabic as a medium of education and public communication, and the adoption of Islam as a state religion. For example, in the 1990s the central government introduced al-mashro al-hadari, a state policy that aims at expanding the Arabo-Islamic agenda throughout the country.

Reflecting the above, most of the discussions surrounding identity in the Sudanese context have been focused at the macro level of politics (Assal, 2009), overlooking the important micro level of identity. Partly because of this there is a need for additional empirical studies to further investigate the role of identity and ethnicity in the specific context of Sudan, but also indeed more generally. For example, Madibbo (2012) emphasises this need with specific reference to the Darfur conflict. There have also been relatively few studies which have examined issues of overlapping identities (Cooper and Knotts, 2013). Madibbo (2012) argues that while the discrepancy between Arabism and Africanism at the macro level of politics instigated violence, at the micro level there is the possibility

of peaceful coexistence between those who embrace these two identities. Madibbo also argues that identification with being Sudanese is a broad identity that extends to groups such as the Nubians, who have been in Sudan for several thousand years long before the expansion of Islam and Christianity in the country. Secondly, it acknowledges the input of various groups of immigrants from other countries, such as Greece and India, in forming the Sudanese identity. Third, he argues that the Sudanese identity mirrors the concept of a melting-pot, a fusion of large numbers of people into a whole with a common culture. In this way subnational and supranational identities do not necessarily conflict with the national identity. Both can coexist and even complement one another. In contrast, Bornman (2010) argues that heterogeneous states face the possibility of multiple conflicts between social identities between subnational groups and the larger political community represented by the nation-state. In addition, the alliances national states have sought in supranational power blocks, may lead to the potential for the development of a supranational identity.

A study of identity has important policy implications, in addition to the issues discussed above, nation-building is often discussed as a remedy for potential problems associated with social distance in general, and with ethnically fragmented societies in particular.[1] Potential problems associated with high levels of ethnic diversity have often been suggested as a partial explanation for poor economic and political performance. For example, Easterly and Levine (1997) argue that ethnic diversity distorts public polices, which in turn adversely affect economic growth, and Mauro (1995) claims that diversity facilitates corruption and therefore again hurts economic growth. Others, such as Alesina et al. (1999) and La Porta et al (1999) find that ethnic diversity leads to a distorted provision of public goods. Nation-building has at least the potential to moderate these negative effects. Some have also argued that nationalism can increase government effectiveness. Although it should be noted that cross-country reviews of the determinants of corruption have shown mixed results regarding the links between corruption, ethno-linguistic fragmentation and lack of national identity (e.g. Treisman 2007). Ahlerup and Hansson (2011) find that nationalism may be a positive force at low levels of nationalism, but a negative force at high levels. They argue that this is a result of different mechanisms, some positive and some negative, working at different levels of nationalism. The positive effects of nationalism include increasing in-group altruism, trustworthiness, and state authority. They also find that nationalism can mitigate the negative association between ethnic fractionalization and government effectiveness in former colonies. The negative effects include that nationalism can breed prejudice, out-group animosity, and skepticism of new ideas, if these are not of national origin.

[1] Although this may not be that easy to achieve in practice.

This analysis of identification can also be linked to recent work on social capital, currently the subject of quite a lot of re-evaluation (Serra, 2011) which emphasises the links between social capital trust, social networks, cultural values, altruism and social norms and also the effectiveness of collective action. Woolcock and Narayan (2000) have argued that social relations provide opportunities for mobilizing other growth-enhancing resources and that the nature and extent of the interactions between communities and institutions holds the key to understanding the prospects for development in a given society. Now identification is not social capital, but it is related and this emphasis on the interactions between communities and institutions is central to our analysis.

In this paper we will be analysing identity along multiple dimensions in Sudan using unique survey data from 2013. These dimensions include national identity, subnational identity with region or state[2], tribe and religion and supranational identity with Arabic and African identities. Sudan is a particularly important country to study in this context, given the recent history of conflict. In particular if there is potential for identities to conflict, then arguably this should be evident in the Sudan. However, we find little evidence that such identities are competing, but they do differ systematically according to socio-economic characteristics such as the individual's level of income, education, state (or region), gender and marital status. We also find strong evidence linking being asked for a bribe to lower identification, particularly with respect to the tribe, the state and the nation. Indeed in many respects this is the primary focus of the paper and is a conclusion with important policy implications. Finally we analyse the determinants of being asked for a bribe. The paper proceeds as follows. In the next section we review the literature on identification and also more briefly bribery. We then present a model of identification followed by the data. In the penultimate section we present the regression results before concluding the paper.

2. Background

2.1 The Sudan

Sudan gained independence from the UK in 1956 since when military regimes which have favoured the centre and the north of the country, and since 1984 have also been Islamic-oriented, have dominated national politics. Persons who identify as Sudanese Arabs form approximately 70% of the

[2] There were 16 states in what is now Sudan in 2008 (at the time of the last census). Since then the number has increased to 18, but the original 16 are used below to develop post-stratification and design weights for the survey analysis. These states are: Al Gazlera, Al Khartoum, Al Qadarif, Al Sheemalylah, Albahr-Alahmur, Blue Nile, Kassala, Naarh Al Neel, North Darfur, North Kurdofan, Sinnar, South Darfur, South Kurdofan, West Darfur, and White Nile.

population and both Arabic and English are official languages. The dominant religion is Sunni Islam, with a small Christian minority. It is also a very young country in demographic terms with just 7.1% of the population 55 or older - and almost 65% under 25 years old. The CIA Factbook suggests a difficult set of circumstances. Some form of conflict has existed since independence with two major civil wars fuelled by tensions between the north and the largely non-Muslim, non-Arab southern, Sudanese. The first civil war ended in 1972 and the second broke out in 1983. It ended with the establishment of South Sudan as a separate country in 2011. Since then Sudan has been fighting rebels in the East (until 2006), as well as the Sudan People's Liberation Movement-North (SPLM-N) in Southern Kordofan and the Blue Nile states. This is in addition to a separate conflict, in the western region of Darfur beginning in 2003, which has displaced nearly two million people and caused an estimated 200,000 to 400,000 deaths.

Although the concentration of power and resources around Khartoum predates British rule, A/Salam (2008) argues that the British colonial administration continued to support the concentration of most of the socio-economic activities in the central region, a trend which has been followed by subsequent postcolonial governments. The current Darfur conflict broke out when Darfurian liberation groups, the Justice and Equality Movement and the Sudan Liberation Movement, rose in revolt against discrimination and the marginalization of their region by the central government (Madibbo, 2012). They then formed armed militia to which the central government has retaliated strongly. Several researchers have alluded to the role of identity in the escalation of the violence and Assal (2009) has argued that tribal identity is of particular importance. De Wall (2005) refers to 'a recent polarization of "Arab" and "African" identities' that also has influenced the conflict.

2.2 Identification

For ethnic identities, the literature often assumes that the required attributes are descent-based and relatively visible, therefore hard to change in the short run (Chandra 2006). Nonetheless, even in the short run, the salience of these attributes can change (see Horowitz, 1985). However, categorization need not imply identification: an individual may possess attributes that place them in more than one social group, but in a given context, they may identify with only a subset of those groups. Indeed the current consensus sees identification as a matter of choice, rather than something which is inherited[3] (Laitin, 1998). In this approach the material benefits of social identity matter and it becomes meaningful to analyse the impact of variables such as education and income on identification. From a theoretical perspective, Shayo (2009) and Sambanis and Shayo (2013) define social identification in terms of preferences. According to this an individual *identifies* with group *J* if they care about (a) the

[3] Although of course this need not apply always and everywhere to the same extent.

status of group *J* (and in particular the payoffs of in-group members relative to the payoffs of out-group members); and (b) they are similar to other members of that group. Individuals do not identify to the same extent with each group they belong to. Rather, they tend to identify more with a group, the more similar they think they are to other members of that group and the higher the status of that group. In Sambanis and Shayo's analysis two ethnic groups contest resources. However, while individuals belong to ethnic groups, they also belong to the "nation". Since identifying with a group means caring about the status of that group (and not only about one's own material payoffs), ethnic identification tends to increased fighting, while national identification tends to reduce it. But at the same time, the intensity of the conflict obviously affects the individuals' social environment. In particular, ethnic conflict tends to make ethnic differences more prominent, thereby reducing perceived similarity to the nation as a whole. Further, fighting can affect the relative status of the ethnic groups and since it destroys national resources it depresses national status. In Shayo's (2009) approach each agent is characterized by a vector of attributes. The perceived distance from a given group is then simply a weighted Euclidean distance between the agent and the prototype of that group, with the weights reflecting the relative importance of the various dimensions. Duriez et al (2013) examine why people differ in the degree to which they identify with their national group. In doing so they argue that national identification is but a chain in a chain of events which depends to some extent on people's pre-existing ideas about how society should be organized and about the membership conditions members need to fulfil.

There has been some empirical work done on identification. Education has been linked with identification by Maddibo (2012) in a positive way in the Sudan, with people learning about their African heritage. Cooper et al. (2010) also find that education is positively correlated with Appalachian identity, speculating that this is because educated people are unlikely to have been subject to as many pejorative connotations of the word Appalachian. Others have found age is positively correlated with regional identity (Goudy, 1990) and Appalachian identity (Cooper et al., 2010). It has been suggested that females identify as Southerners, in the USA, at slightly higher rates than males (Griffin and Thompson, 2003). Shulman (2003) using data from the World Values Survey and the International Social Survey Programme (ISSP), finds that within countries, poor people on average have greater national identity. In addition in a comparison of 59 countries, he finds that relatively poor countries on average have higher scores on national identity and national pride. Shayo (2009) also confirms that the level of nationalism is higher among the poor[4]. Moving away from socio-economic characteristics, Maddibo (2012) argues that in Sudan, Arabism is associated with

[4] In part it was suggested that this was because, being the majority, the poor are more similar to the national prototype. In our analysis we later suggest a different explanation for many of these impacts based on their impact on the individual's choice set.

Islam and Arabic descent and culture, and Africanism is linked to Christianity, indigenous beliefs and African culture. Many of the studies relate to identification in melting pot cultures, such as in North America or modern Europe. Manning and Roy (2010) study the extent to which people living in Britain think of themselves as British. They find that members of non-white ethnic groups are much less likely to think of themselves as British than are whites. But 'distance' is not the only factor they find important. Immigrants from poorer and less democratic (i.e., lower status) countries assimilate faster into a British identity than do immigrants from richer countries, a conclusion which links into the findings already mentioned that national identification tends to be greater amongst poorer people.

2.3 Bribery

Seligson (2002) has observed that many economists have tended to see the negative impacts of corruption in terms of increased transaction costs, reduced incentives to invest and lower economic growth. Thus with a specific focus on five North African countries, including Sudan, Drine (2012) finds a link from corruption to the technology gap and the speed of technology catch up. But there is a strand in the literature, particularly common in politics, that corruption can be beneficial, particularly in non-democracies, in facilitating the ability 'to get things done'. But Seligson, and others, have begun to focus on the negative aspects of corruption, which he argues can only be properly analysed using a micro data base on individuals of the kind we use in our analysis. Using national sample survey data, from four Latin American countries, Seligson finds that independent of socioeconomic and demographic variables, exposure to corruption erodes belief in the political system. This finding is supported by other research, for example Sun and Wang (2012) find that negative actions by the government, including corruption and the abuse of privilege, significantly reduce both interpersonal trust and trust in government. Whilst in later research, Seligson (2006) found that that those who experience corruption, of which being asked for a bribe is a component part, are less likely to believe in the legitimacy of their political system. Even in high income democracies, bribery and corruption have been found to be associated with large and more complex public sectors that are less susceptible to political and hence electoral oversight (Hamilton, 2013).

There is also a small literature on whom is exposed to bribery. One of the more extensive studies is by Mocan (2008). He argues that the probability of being targeted for a bribe is likely to be a function of age, marital status, labour market activity, wealth, education, gender and the location of the residence. The rational is that, e.g. highly-educated and wealthy individuals should have higher exposure to being asked for a bribe by a government official because of their higher earning capacity. But the reverse should be true for people who are not active in the labour market, such as the very young or the very old. Males are expected to be more exposed because in most countries males are more active than females in the labour market for various reasons, and thus have more exposure to officials. Second, other things being equal, males have a higher propensity to engage in criminal

activity or to be tolerant of illegal activity (Mocan and Rees 1999, Swamy et al. 2001). Location is also important, as in larger cities there may be greater scope for increased contact with the government, and also the relationship between individuals and government officials may be less personal in larger cities in comparison to smaller ones, which may make it easier to ask for a bribe.

3. Theory: The Determinants of identity

We take as our starting point the model by Georgiadis and Manning (2013) which in turn built upon work by Akerlof and Kranton (2000). This is a useful model because, while it can help us identify critical variables to include in the subsequent empirical analysis, it is also sufficiently flexible to allow us to remain agnostic about the causal link between bribery and identity. That is whether bribery reduces identity or 'outsider groups' are potentially more vulnerable to having to pay bribes.

We assume the following utility function for the individual taking action x_i, where the individual identifies with group g.

$$U_i(x_i,g) = -0.5c_i(x_i - \tilde{x}_i)^2 + B_g - 0.5\, b_g(x_i - x_g^*)^2 \quad (1)$$

Where $\tilde{x}_i$ is the optimal value for individual i according to the conventional part of their utility function, which will be affected by their tastes which themselves might be influenced by, for example, the culture of their parents. That is, it is the action the individual would pursue if they were not to consider the group's position. If the individual complies with the group's position completely they receive benefits B_g. But if they deviate from the group's position x_g^* then they are penalised. b_g represents the scale of punishment and Georgiadis and Manning argue that it can be thought of as a measure of how tolerant or inclusive a group is. Maximising this utility function with respect to x_i gives:

$$x_i = (c_i\tilde{x}_i + b_g x_g^*)/(c_i + b_g) \quad (2)$$

This is a weighted average of what the individual would wish to do based solely on their own self interest and the group's position. It would appear that this is independent of B_g the basic reward for group membership. But in reality b_g, the group's toleration parameter, may be positively linked to B_g, as the bigger the reward, the greater the potential to penalise the individual. In this analysis it is implicit that if $\tilde{x}_i \neq x_g^*$ and $c_i > 0$, then the individual will deviate from the group's position to some degree. The only way the group can prevent this is by putting a very high punishment parameter b_g

and as $b_g \longrightarrow \infty$; $x_i \longrightarrow x_g^*$. The value of group identity is the difference in utility from the self-interest component and with the group identity factored in:

$$I_i = B_g - 0.5(b_g c_i^2/(c_i + b_g)^2)\ (\tilde{x}_i - x_g^*)^2 \qquad (3)$$

This, Georgiadis and Manning interpret as a measure of the individual's strength of identification with group g.

However, it is not totally clear where (3) comes from. It would appear to be the sum of B_g and $-0.5\ b_g(x_i - x_g^*)^2$, substituting x_i from (2) and calculating the resulting expression. However if this is to reflect the gains from being a member of the group, then it ignores $= -0.5c_i(x_i - \tilde{x}_i)^2$ which is the first term in (1). Recalculating the value of the group to the individual as the full difference between utility as a member of the group or outside the group, including the first term, gives a slightly more complex, although symmetric, expression:

$$I_i = B_g - 0.5((b_g^2 c_i + b_g c_i^2)/(c_i + b_g)^2)\ (\tilde{x}_i - x_g^*)^2 \qquad (4)$$

Georgiadis and Manning emphasise that it is a subjective feeling of the individual which may not correspond with whether they are seen by others as a member of the group. The level of identification will be lower the larger the gap between the individual's optimal position based on pure self-interest and that of the group's. It also declines with the strength the individual places on their own self-interest c_i. However, as would be expected, the larger the group potential benefits, B_g, the stronger is the identification to the group.

This suggests that the gains that people get from group membership may be linked to their socio-economic characteristics. Relatively speaking, poor people have fewer resources at their disposal than rich ones and hence a smaller choice set, thus the gains from group membership will be relatively more important. This suggests, as indicated in the literature, that income should be included as an explanatory factor in group identification with an expected negative impact. Age may also be included. There are several possibilities. Firstly as the individual ages they learn more of their own personality which moves further away from the impacts of their socialisation. In this case we would expect $|\tilde{x}_i - x_g^*|$ to increase with age. However, if the group norms are effectively set by older people, as is the case with many groups, in many societies, then we would expect that $|\tilde{x}_i - x_g^*|$ tends to decline with age. Education expands the individual's knowledge set (Ω). In some circumstances Ω is dominated by the group. This may often be the case in peripheral areas which are dominated by the tribe and religious institutions. Education provides additional knowledge, and in doing so may result in a change in values leading to $|\tilde{x}_i - x_g^*|$ increasing, and lower identification. The same may also be

the case with respect to age. However, where Ω with respect to a group is limited, as for example with some supranational identities which the nation does not wish to encourage, education may result in a decline in $|\tilde{x}_i - x_g^*|$, thus increasing group identification. This latter possibility is consistent with some of the findings in the literature.

Men and women may also have different choice sets, particularly in less developed countries, and they may also have different expectations of behaviour laid down by the group norms. There may also be further differences for both men and women depending upon their marital status. The benefits group membership may offer vary from promises of life after death, to more mundane ones such as protection from others, both group insiders and outsiders. For many people the key time for such benefits relates to transfers of assets after death or divorce and hence divorced or widowed people may have different levels of identification to others. In addition women suddenly alone, may have more to gain from group protection and hence strengthen their identity with the group.

Bribery can impact on (4) in two ways. Firstly, if the bribe is linked to group membership, it is a negative element of B_g. That is it reduces the benefits of group membership. Secondly, it can increase $|\tilde{x}_i - x_g^*|$ if the individual perceives bribery as being one of the values of the group and the individual does not subscribe to that view. Even if the bribe does not stem from the group per se, it may still suffer by association. For example, if the bribery stems from national officials and the nation identifies itself in part with supranational identities, those may be perceived as linked to bribery. Thus the regression will include all these variables, and also include state fixed effects to capture differences between states in addition to the socio-economic characteristic of their inhabitants. The dependent variable is discrete and ordered, albeit over a rather large range of 1 to 10. Hence we will estimate the regressions using ordered probit.

We are also concerned with whether groups reinforce each other or compete. In the case where there are two groups, g and k, maximising the utility function with respect to x_i gives:

$$\mathrm{x_i} = (\mathrm{c_i}\tilde{\mathrm{x}}_\mathrm{i} + \mathrm{b_g}\mathrm{x_g^*} + \mathrm{b_k}\mathrm{x_k^*})/(\mathrm{c_i} + \mathrm{b_g} + \mathrm{b_k}) \tag{5}$$

Where b_k is the k group's toleration parameter. The utility the individual receives equals

$$\mathrm{U_i}\,(\mathrm{x_i}, \mathrm{g}, \mathrm{k}) = -0.5\mathrm{c}_i[((\mathrm{c_i}\tilde{\mathrm{x}}_\mathrm{i} + \mathrm{b_g}\mathrm{x_g^*} + \mathrm{b_k}\mathrm{x_k^*})/(\mathrm{c_i} + \mathrm{b_g} + \mathrm{b_k})) - \tilde{\mathrm{x}}_\mathrm{i}]^2 + B_g - 0.5\mathrm{b}_g[((\mathrm{c_i}\tilde{\mathrm{x}}_\mathrm{i} + \mathrm{b_g}\mathrm{x_g^*} + \mathrm{b_k}\mathrm{x_k^*})/(\mathrm{c_i} + \mathrm{b_g} + \mathrm{b_k})) - \mathrm{x_g^*}]^2 + B_k - 0.5\mathrm{b}_k[((\mathrm{c_i}\tilde{\mathrm{x}}_\mathrm{i} + \mathrm{b_g}\mathrm{x_g^*} + \mathrm{b_k}\mathrm{x_k^*})/(\mathrm{c_i} + \mathrm{b_g} + \mathrm{b_k})) - \mathrm{x_k^*}]^2 \tag{6}$$

This will involve interactive terms between x_g^* and x_k^*, and the utility loss belonging to a group is now more difficult to calculate. However, the individual may still plausibly be assumed to base identification on (4) where they consider the impact of the group on their wellbeing in isolation from

other groups. But the interactive terms in (6) highlight the possibility that the utility gain of belonging to one group depends upon membership of other groups. Thus there is the potential for positive and negative spillovers from one group to another. We can illustrate this in another way by focusing on how close to a group an individual is in the actions they actually take[5]. With just one group the difference between the individual's actions and the group's norm is:

$$(x_i - x_g^*)^2 = \{c_i(\tilde{x}_i - x_g^*)/(c_i + b_g)\}^2 \quad (7)$$

With two groups it is:

$$(x_i - x_g^*)^2 = \{[(c_i(\tilde{x}_i - x_g^*) + b_k(x_k^* - x_g^*)]/(c_i + b_g + b_k)\}^2 \quad (8)$$

Comparing (7) to (4) the main difference is the absence of B_g. However it is plausible, as already discussed, to assume that b_g is an increasing function of B_g, that is the greater the potential reward of group membership the greater is the potential punishment for deviating from the group norm. In addition the impact of an increase in b_g is to reduce $(x_i - x_g^*)^2$ in (7), whereas in (4) it tends to reduce utility and hence increase identity. This is a crucial difference, but from our perspective these tolerance parameters are fixed and we are focusing more on the impact of socio-economic characteristics which impact on identification and that is largely the same. Whether the individual in their actions becomes closer to group g given a second group to which they identify depends upon how close x_k^* is to x_g^* A small difference and this provides added reasons for an individual to subdue their natural instincts as reflected by $\tilde{x}_i$. In this case the groups are mutually reinforcing, as to break with the norms of one tends to reflect a break with the other and the sanctions are twofold. However if there is a large divergence between the two group norms, then the individual is being pulled in three directions reflecting their natural instincts and the two group norms. In this case it is possible that if the gap between the two group norms is sufficiently large, $(x_i - x_g^*)^2$ will actually increase and the two groups can be thought of as competing with identification with one pulling the individual away from the other.

[5] This view of identification is similar to that of Sambanis and Shayo (2013) who link it to how similar an individual is to others in the group.

4. Data

Table 1: Data definitions

Identification	Identification with Sudan/state/religion/tribe/Arabs/Africa, coded 1 to 10, i.e. from 'not at all' to 'completely'.
Bribe	Whether have been asked for a bribe, responses coded 1 to 4, i.e. from in the last month, six months, year and 4 never.
Age	Age in years
Education	Coded from 1 (illiterate) to 9 (PhD) as an increasing measure of education. The highly educated variable equalled one when the individual had one of the top two levels of education.
Income	Coded 1 (100-500 STG), 2 (500-1000 STG), 3 (more than 1000 STG), monthly income
Marital variables	Binary variables taking a value of one if the person was single/married/divorced or widowed.
Male	Coded 1 if the individual was a male
Urban	Coded 1 if lives in an urban area.
Work	Coded 1 if in employment.
Work government	Coded 1 if works for the government
Work Pt Co.	Coded 1 if works for a private company.
Income support	Coded one if the household income is supplemented by a family member living abroad.

The dataset was collected by Sudan Polling and Statistics Center (SPSC) in collaboration with the Department for International Development on 11-21 July 2013 using a stratified random sampling technique with replacement households. All 11 previous (now 15) states that constitute Sudan were included in the survey in more than 100 localities in 238 different sites – both rural and urban. Specifically, the sampling process entailed three stages, namely: (1) one cluster was randomly selected from each of the four localities in every state (the probability that any given locality was selected was proportional to size); (2) households in the locality were randomly selected using a 'random walk' with replacement sampling strategy; (3) an individual, of 18 years or older, was selected from within each household using the Kish Table method for selection to respond to the survey. Field interviewers were allocated to their own hometown or countryside which facilitated a greater capacity to understand cultural, social and political conditions. Obviously the survey is done in less than ideal conditions. For example, security conditions in South and North Kordofan hindered the work in these states, but it did not stop it and these problems add to the value of the survey data collected. Furthermore while sampling weights could be developed at the state level (post-stratification weights for sex and state population) there is insufficient official information to enable the development of sub-state weights

The dependent variables relating to identity take a value of 1 to 10, i.e. from 'not at all' to 'completely'. These were the response to a series of questions, the first of which asked "In general to what extent do you identify yourself as Sudanese?" Further questions followed where 'Sudanese' was substituted with (i) 'state' [i.e. the appropriate state was named], (ii) Arab, (iii) African, (iv) tribe. The questions are therefore similar to those analysed by Cooper and Knotts (2013) in analysing identities in the American South. Their data was coded 1 (no identity at all) to 7 (strongly identify). The data on bribery which we use relate to the statement "I personally have been asked for a bribe

from an official in the past xxxx" where xxxx 1 (one month), 2 (six months), 3 (one year) and 4 (never). All variables are defined in Table 1.

Table 2 presents summary data on identification. Column 1 shows the mean or average response. For identification with Sudan, this is very high at a value of 9.08 indicating that most people identify totally with being Sudanese. The next highest proportion relates to identification with religion and then 'their state' and tribe. There is a sharp decline for supranational identification, both African and Arabic. The second column shows the standard deviations and illustrates that people are more divided on these supranational identities than the other forms. The third column shows the proportion with zero identification. When this relates to being Sudanese or even the state such people are of particular concern. They have no identification with being Sudanese and just possibly it is from this group that potential rebellion against the state can gain ground. Developing this measure still further, the final column shows those with minimal identification, which we classify as having a response between 1 and 3. Less than 1 in 20 fall in this category, although as indicated they could pose problems out of proportion with their numbers. There are much larger proportions with minimal identification with their religion and tribe and over a third have minimal identification with being Arabic. This too can cause tensions within society if, as is the case, substantial numbers also strongly identify with being Arabic, or indeed African. Finally, 332, or 15.1% of, respondents indicated that they fully identified with all identities.

Table 2: Summary Data on Identification in 2013

Identification with:	Mean	Standard deviation	Zero Identification	Minimal Identification
Sudan	9.08	2.17	3.57%	5.26%
State	8.13	2.73	6.51%	8.96%
Religion	8.67	2.71	7.10%	9.41%
Tribe	7.95	3.06	9.61%	13.60%
Arab	5.62	3.53	25.60%	33.50%
African	6.24	3.44	18.60%	25.10%

Notes: The mean (standard deviation) is the average value (standard deviation) of the identification variable, The zero identification column represents the proportion with a zero level of identification and the minimal identification column reflects those with a level of identification less than 4.

The summary data on the remaining variables used in the regressions are shown in Table 3. The first column relates to the full sample. The first five rows relate to the mean value, e.g. the mean level of education for the full sample is 4.82 on an increasing scale of 1 to 9, whilst for women alone it is 2.33. The remaining rows relate to proportions. For example 38.06% of the full sample were single and 11.14 % came from Al Khartoum. The second column is based not on the full sample, but just on those who have been asked for a bribe. Such people tend to receive slightly a higher income than the average and be better educated, although if a woman, worse educated. However men are more likely to be asked for a bribe than women, as are those in work and in receipt of income from outside the

country. In terms of where they live, those in Al Khartoum, Al Qadarif and the Blue Nile are particularly likely to have been asked for a bribe. These conclusions are based on comparing the summary statistic in the second column with the first. For example, we can see that people from the White Nile formed 6.39% of our full sample, but from those who have been asked for a bribe only 4.68% came from the White Nile.

Table 3:Summary Data on Independent variables in 2013

	Full sample	*Those asked for a bribe*		*Full sample*	*Those asked for a bribe*
Mean Values				*Percentages*	
Age	34.4	35.01	Al Gaziera	7.48	8.83
Education	4.82	5.28	Al Khartoum	11.14	16.88
Income	1.77	1.84	Al Qadarif	6.13	10.13
Women's education	2.33	1.77	Al Sheemalyfah	6.48	4.94
Bribe	3.67		Albahr Alahmur	6.48	0.78
Percentages			Blue Nile	6.48	10.91
Married	53.98	54.03	Kassala	6.09	4.16
Single	38.06	37.4	Nahr Al Neel	6.52	3.38
Male	50.28	63.12	North Darfur	4.05	5.19
Urban	35.8	37.14	North Kurdofan	6.26	5.45
Work	49.65	62.6	Sinnar	6.39	5.19
Work government	16.79	16.88	South Darfur	8.57	5.97
work pt Co.	10.66	17.92	South Kurdofan	5.09	7.01
Income support	30.22	39.09	West Darfur	6.44	6.49
Divorced widow women	5.83	5.71	White Nile	6.39	4.68

Notes: Column one relates to the full sample. The mean is the average value of the variable. The percentages relate to the proportion, e.g. 53.98% of the full sample are married. Column two relates to the same summary statistics as the first, but for those who have been asked for a bribe at some time in the previous year. For example, 54.03% of married people have been asked for a bribe.

In Table 4 we show the correlation matrix between the different identities. All are positively significant at the 1% level of significance, apart from that between religious identity and African identity. This does not necessarily imply that the identities are reinforcing. It is possible that there are basic factors driving identity on all dimensions, but once these are included in the analysis, there may be no reinforcement and even competition. It is to the determinants of these basic factors which drive identity that we now turn.

Table 4: Correlation Matrix

	Nation	State	Religion	Tribe	Arab
State	0.383*				
Religion	0.254*	0.430*			
Tribe	0.245*	0.480*	0.514*		
Arab	0.106*	0.254*	0.099*	0.169*	
Africa	0.164*	0.119*	0.031	0.134*	0.422*

Notes: *correlation significant at the 1% level.

5. Regression results

Table 5 presents the main results for identification. Column 1 relates to identification with the Sudan. This is higher for married people and declines with income, both impacts being significant at the 5% level. It is also greater for women who are either divorced or widowed. But the most significant of the non-state variables is bribery. Having been asked for a bribe, significantly reduces identification with the Sudan at the 1% level of significance[6]. The state variables are all in relation to those living in the White Nile. Other things being equal identification is less, and often significantly so, in other states apart from North Kurdofan, which is significantly greater at the 5% level of significance and Sinnar, Kassala, Al Sheemalylah and Naarh Al Neel where there is no significant difference with those from the White Nile. Other things being equal identification tends to be lowest in Al Gazlera and Al Qadarif. The results for identification with the state, shown in the second column, are similar, apart from being married is insignificant. This similarity also extends to the significance of the state variables. Identification with religion is however somewhat different. All of the marital state variables are significant. The pattern of significance is such that divorced or widowed women have the strongest identity and divorced or widowed men the least[7]. Religious identification also significantly declines with the level of education and is less for those in work, apart from those working for the government. There are also significant locational differences with it tending to be lowest for those in Al Khartoum, Al Sheemalylah and Al Qadarif. Tribal identification is also lowest for divorced/widowed men, and declines with age, the level of education and income, and, as with, religion tends to be lowest in Al Khartoum, Al Sheemalylah and Al Qadarif. Finally being asked for a bribe has a particularly strong adverse impact upon tribal identification. The penultimate two columns relate to supranational identity, firstly with the Arab world and secondly Africa. The former declines with the level of education and the latter with age. Both tend to be lower in urban areas and significantly higher for those who work for the government. Being asked for a bribe once more adversely impacts upon both forms of identity. If we repeat this regression, excluding those who were totally identified on all dimensions there is little change in the results.

The final column relates to bribery. Educated people are more likely to have been asked for a bribe as are those in receipt of income from family members abroad. This latter result could be because (i) they have the financial resources to pay the bribe, although this is not reflected in income per se, (ii) other people know of this income and want a share or (iii) it could be linked to the process by which money is transferred to the individual[8]. However the combined significance of the education and

[6] The definition of the bribe variable is as in Table 1 and hence reflects both the frequency of having been asked for a bribe as well as whether the individual has been asked for a bribe at all (coded 4). Hence higher values are inversely related to the extent to which the individual has been asked for a bribe.

[7] We interacted with marital status in this way, differentiating between men and women because we anticipated that it would impact on men's lives in a substantially different way to women's, which our results tend to confirm.

[8] Given the pre-dominance of black market transactions in Sudan this is quite a plausible explanation.

gender variables is that the impact of education is only for men and in addition, the most highly educated people are less likely to be asked for a bribe than those who are slightly less well educated. This may be because they are in positions of influence. Women as a whole are less likely to be asked for a bribe. We should also note that the regional differences are much smaller than with respect to identification.

Table 5: Regression Results Identification and bribery

	Identity: Sudan	State	Religion	Tribe	Arab world	Africa	Asked for bribe
Married	0.3814**	0.0732	0.3565**	0.4664**	-0.1322	0.1049	0.3039
	(2.03)	(0.38)	(2.01)	(2.36)	(0.67)	(0.48)	(1.38)
Single	0.2807	0.0767	0.3521*	0.3993**	-0.1759	0.1053	0.2366
	(1.40)	(0.38)	(1.88)	(2.00)	(0.87)	(0.47)	(1.04)
Age	0.0024	-0.0027	-0.00067	-0.0054*	2.20E-04	0.0057**	-0.004
	(0.74)	(0.98)	(0.20)	(1.91)	(0.09)	(2.10)	(1.17)
Gender	0.1809	-0.0725	0.3375*	0.1847	0.2311	0.212	0.470**
	(0.96)	(0.44)	(1.86)	(1.14)	(1.40)	(1.29)	(2.11)
Highly educated	0.0572	0.2334	0.2951*	0.123	0.0298	-0.0942	0.3678**
	(0.33)	(1.63)	(1.70)	(0.84)	(0.22)	(0.68)	(2.41)
Education	-0.0072	-0.0012	-0.0726***	-0.0933***	-0.0521**	0.0152	-0.1619***
	(0.26)	(0.05)	(2.65)	(3.78)	(2.17)	(0.65)	(5.30)
Income	-0.1105**	-0.1135**	0.0527	-0.091**	0.0415	0.0059	0.0109
	(2.21)	(2.56)	(1.06)	(2.01)	(1.02)	(0.15)	(0.20)
Urban	-0.1071	-0.0399	-0.0047	-0.00079	-0.2085***	-0.1405**	0.0165
	(1.48)	(0.62)	(0.06)	(0.01)	(3.41)	(2.34)	(0.21)
In work	0.066	0.1033	-0.201**	-0.0463	-0.0671	-0.2854***	-0.2997***
	(0.69)	(1.25)	(2.13)	(0.56)	(0.86)	(3.66)	(2.99)
Work for government	0.1094	0.0345	0.2782**	0.0837	0.1964**	0.2471***	0.2731**
	(0.99)	(0.36)	(2.44)	(0.87)	(2.23)	(2.77)	(2.41)
Work for private firm	-0.0405	-0.1054	0.0833	-0.0791	0.0234	0.1367	-0.2261*
	(0.33)	(0.96)	(0.68)	(0.72)	(0.24)	(1.37)	(1.92)
Receives income for abroad	-0.1029	-0.0881	0.0268	0.0907	0.0133	-0.0793	-0.317***
	(1.47)	(1.44)	(0.36)	(1.44)	(0.22)	(1.36)	(4.16)
Women's education	0.047	-0.0022	0.0468	0.0436	0.026	-0.006	0.1311***
	(1.40)	(0.08)	(1.45)	(1.53)	(0.91)	(0.21)	(3.53)
Divorced/widowed and a woman	0.4786**	-0.0522	0.4144*	0.416*	-0.2125	0.3161	0.1707
	(2.01)	(0.23)	(1.76)	(1.83)	(0.93)	(1.30)	(0.64)
Asked for bribe	0.1187***	0.1591***	0.0727**	0.184***	0.0833***	0.1111***	
	(3.29)	(4.68)	(1.98)	(5.57)	(2.69)	(3.70)	
Al Gazlera	-0.4162**	-0.5065***	-0.1718	-0.5277***	0.1636	-0.0698	-0.4406**
	(2.27)	(3.13)	(0.80)	(3.16)	(1.16)	(0.49)	(2.46)
Al Khartoum	-0.3419**	-0.8997***	-0.8725***	-1.295***	0.0683	-0.7248***	-0.3663**
	(2.04)	(6.18)	(4.49)	(8.66)	(0.54)	(5.76)	(2.18)
Al Qadarif	-0.886***	-0.7986***	-0.8686***	-0.6179***	-0.522***	-0.7405***	-0.737***
	(5.11)	(4.86)	(4.34)	(3.80)	(3.97)	(5.59)	(4.17)
Al Sheemalylah	-0.261	-0.1613	-1.427***	-0.662**	0.176	0.2775	-0.3429
	(0.76)	(0.52)	(4.88)	(2.28)	(0.63)	(1.03)	(1.11)
Albahr-Alahmur	-0.5852***	0.1985	-0.2169	-0.2567	-0.6549***	-1.053***	0.2133
	(2.69)	(0.94)	(0.90)	(1.15)	(3.25)	(5.05)	(0.66)
Blue Nile	-0.8963***	-0.890***	-1.338***	-1.031***	-0.2818**	-0.3311**	-1.031***
	(5.25)	(5.76)	(6.84)	(6.54)	(2.12)	(2.49)	(5.38)
Kassala	-0.0129	-0.1103	0.0117	-0.3723**	-0.0185	-1.121***	-0.2081
	(0.07)	(0.66)	(0.05)	(2.18)	(0.12)	(7.48)	(0.99)

Naarh Al Neel	-0.4576	-0.1655	-0.3715	-0.4374*	0.6216***	-0.1677	0.2515
	(1.58)	(0.66)	(1.31)	(1.79)	(2.65)	(0.76)	(0.88)
North Adrfur	-0.9004***	-0.2986	-1.251***	-1.121***	-0.2151	-0.6065***	-0.4637**
	(3.85)	(1.28)	(4.94)	(4.88)	(1.03)	(2.77)	(2.12)
North Kurdofan	0.625**	0.5601**	0.5349*	0.172	-0.6608***	-1.17***	-0.3066
	(2.29)	(2.50)	(1.87)	(0.90)	(4.12)	(7.02)	(1.61)
Sinnar	0.1936	-0.1363	-0.0057	-0.1796	0.063	0.071	-0.3032
	(0.87)	(0.76)	(0.02)	(0.97)	(0.40)	(0.45)	(1.58)
South Darfur	-0.5467***	-0.2936*	-0.4489**	-0.3568**	-0.1553	-0.7996***	-0.2035
	(2.97)	(1.72)	(2.09)	(1.96)	(1.03)	(5.23)	(1.05)
South Kardofan	-0.3627*	-0.2734	-0.4316*	-0.516***	-0.0107	-0.3735**	-0.4949**
	(1.76)	(1.52)	(1.80)	(2.93)	(0.07)	(2.50)	(2.57)
West Darfur	-0.5491**	-1.172***	-1.419***	-1.420***	-0.8678***	-0.409**	-0.5089**
	(2.55)	(6.63)	(6.81)	(7.90)	(4.80)	(2.47)	(2.42)
Observations	1831	1821	1828	1814	1760	1744	1887
Log Likelihood	-1731	-2695	-1783	-2639	-3519	-3327	-1225
X^2	162.9	303.7	276.1	383.9	178.5	280.4	168.9

Notes: All the regressions estimated by ordered probit; t statistics in italics. ***/**/* denotes significance at the 1%/5%/10% levels of significance. Standard errors have been corrected for heteroscedasticty. Variables defined in Table 1, X^2 represents the likelihood ratio test statistic. The regional variables are in comparison with the White Nile, which is the omitted region from the above.

The above results did not change when we restricted the analysis to those who did not express total identification on all dimensions. We also did a set of bivariate probit regressions where the dependent variable took a value of one if identity was either 9 or 10. In all cases the correlation term was positively significant. When we redid the regressions excluding those who answered total identification on all dimensions all the correlations between identification with the Sudan, state, tribe and religion remained significant, at the 1% level, as were those between the (i) state and Arabic, (ii) the tribe and African and (iii) African and Arabic identities. There were no significant negative correlations. This same pattern was reproduced when we used multivariate probit to estimate the regressions. The pattern of significance on these multivariate regressions was similar to the single regression probit ones reported in Table 5, indeed the t statistics were in general slightly more significant.

These regressions assume that being asked for a bribe is exogenous. This is consistent with the literature (Seligson, 2002). In addition, in our analysis we have used a variable which reflects being asked for a bribe rather than one which relates to giving a bribe. This is because the act of offering a bribe is more likely to be endogenous than being asked for a bribe. However, it is still possible that 'outsider groups' are potentially more vulnerable to having to pay bribes. Thus in addition we did further regressions where we use a predicted value for bribery obtained from the final regression in Table 5. The identification equations then excluded whether the individual was a male, worked for a private company, whether they received income from abroad, the dummy variable for the highly

educated and the education variable operative for women alone. These were all insignificant[9] in all the identification equations in Table 5, but significant in the bribery equations, particularly the latter. The inclusion of several of these in the equation system was in any case because of their anticipated impact upon bribery rather than identification and these then form the instruments used to identify bribery. The results are shown in Table 6. This predicted bribe variable remained significant at the 1% level in the regressions for identity the state and Sudan itself and at the 5% level for identity with the tribe. It was not however significant for religious identification nor either of the supranational identities. This pattern of significance remained when the sample exclude those who fully identified on all dimensions. In all of these regressions, standard errors are corrected for heteroscedasticity. Finally we again did multivariate probit regressions. Once more the predicted bribery impacted on identification with the tribe, at the 1% level of significance, and the state and Sudan itself, both at the 5% level of significance[10]. Being asked for a bribe continues to adversely impact upon all these forms of identity.

[9] Apart from male which was weakly significant in the religious identity equation and the highly educated which was weakly significant in the religious identity equation. These were both at the 10% level of significance, and with five equations it is not unlikely that in one a variable will be significant at this level.

[10] All of these results are available from the authors upon request.

Table 6: Regression Results Identification using Instrumented Bribery

	Identity: Sudan	State	Religion	Tribe	Arab world	Africa
Married	0.2932*	0.0045	0.1614	0.3615*	-0.2064	0.0867
	(1.66)	(0.03)	(0.94)	(1.93)	(1.14)	(0.43)
Single	0.2006	-0.0254	0.1116	0.2698	-0.2327	0.1297
	(1.05)	(0.14)	(0.61)	(1.41)	(1.24)	(0.63)
Age	0.0029	-0.0016	0.0021	-0.0038	0.0012	0.0055**
	(0.94)	(0.63)	(0.70)	(1.40)	(0.48)	(2.13)
Education	0.0306	0.0306	-0.0128	-0.0502**	-0.0357*	-0.0098
	(1.29)	(1.54)	(0.58)	(2.44)	(1.87)	(0.52)
Income	-0.1156**	-0.1281***	0.023	-0.0982**	0.0313	0.0096
	(2.43)	(3.05)	(0.49)	(2.30)	(0.81)	(0.25)
Urban	-0.0922	-0.0495	-0.0331	-0.0251	-0.2024***	-0.116**
	(1.32)	(0.79)	(0.46)	(0.41)	(3.40)	(2.00)
In work	0.1958**	0.1816**	-0.1039	-0.0376	0.009	-0.1507**
	(2.22)	(2.41)	(1.23)	(0.50)	(0.13)	(2.10)
Work for government	0.00024	-0.018	0.2347**	0.095	0.1559*	0.1994**
	(0.00)	(0.20)	(2.15)	(1.02)	(1.86)	(2.32)
Divorced/widowed and a woman	0.4756**	0.0144	0.2015	0.3831*	-0.3566*	0.1744
	(2.24)	(0.07)	(0.95)	(1.86)	(1.75)	(0.81)
Asked for bribe	0.3754***	0.3911***	0.1966	0.2609**	0.0683	-0.1179
	(2.78)	(3.46)	(1.47)	(2.24)	(0.62)	(1.10)
State Fixed effects	included	included	included	included	included	included
Observations	1961	1950	1955	1943	1879	1868
Log Likelihood	-1878	-2933	-1973	-2886	-3754	-3568
X^2	176.6	321.3	297.1	389.3	171.9	263.7

Notes: See Table 5

6. Conclusions and policy Implications

The analysis has provided evidence that there is a negative association between bribery and identification at all levels, but particularly with respect to the tribe, the state and the nation. Least affected is religious identity, followed by the supranational identities. There is some evidence that tribal identification is most affected. This may reflect the identity of the person seeking the bribe. If this is so then the focus should be on the tribe and the state and national officials in particular. This is particularly important in a country such as Sudan which is struggling with internal divisions, built in part on different identities. Thus our analysis has shown that there are very substantial differences between regions both in terms of the level of bribery and even more so with identification. The bribery variable we have used relates to experience of personally being asked for a bribe. It therefor primarily relates to low level corruption (Seligson, 2005). It is also possible that perceptions of high level corruption may also adversely impact on identification. The results also show that identification differs systematically with an individual's socio-economic characteristics. In common with other studies we find identification with the three key administrative levels, the nation, the state and the

tribe declines with the level of income[11]. Tribal identification, but not the other two, also declines with the level of education, as does identification with religion and the Arab world. Identification is to a large extent not impacted upon by age, but marital status does impact on identification with the nation, the tribe and religion. The default group is divorced or widowed men and the analysis suggests these have less identification than the rest of the population. This may be because being widowed or divorced is one occasion when the individual meets officialdom and it is possible that men are more dissatisfied with the outcome than women. Or it may be that the previously married man begins to pursue a life style which is at variance with the group norms. Finally there was relatively little evidence that being in receipt of income from family members abroad reduced identification. In no case are there conflicting impacts of the socio-economic variables on the different dimensions of identification[12]. In this and in other ways there was also relatively little evidence of one form of identification crowding out other forms[13]. Indeed the reverse was the case for national identity in particular. But this does not mean it is not a problem, with members of one state or tribe potentially having negative views of other states or tribes. This is something our analysis has not picked up and going forward an interesting question might be how much individuals identify with Sudanese from other tribes or states. More background information on the individuals, e.g. a finer definition of income and how long the individual has been in their current location would also be useful in helping to understand attitudes.

Identity is important in helping bind a nation together and allowing it to benefit from a generalised feeling of civic duty. In Africa as a whole this is problematic as many states are relatively artificial creations from a colonial era (Clapham (2001). Our analysis has suggested that, in the Sudan at least there may be something to build upon. But equally it suggests that corruption, particularly as it impacts on individuals, can limit this building process. But this could also be a constraint on corruption in countries with enlightened governments.

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[11] If this is valid over time, as well as in a cross section analysis, then it has implications for identification as countries become richer.

[12] There is some limited evidence of conflict. With respect to national identity, a regression of this on the separate identities on the full sample results in only state and African identities being significant at the 1% level of significance. If we repeat the regression excluding those who said they had total identity on all dimensions, then Arabic identity was *negatively significant* at the 1% level of significance. But this is not reinforced with findings elsewhere in this analysis.

[13] An important qualification to this can be found in the impact of the state variables. Hence North Kurdofan, for example, has significantly stronger identification with both the state and the nation and significantly negative less identification with bot supranational identities.

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